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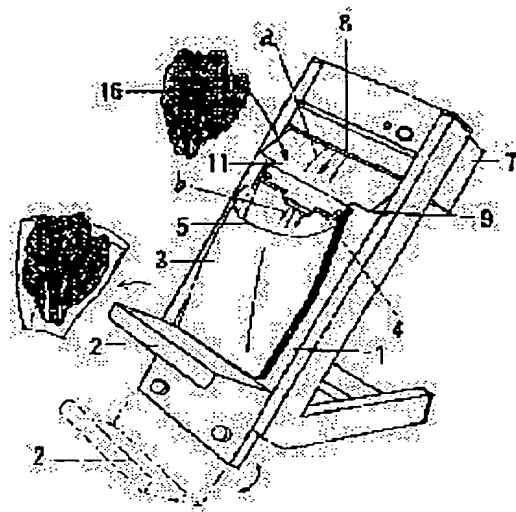
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## (54) PACKAGING DEVICE AND PACKAGING BAG FOR VEGETABLE AND OTHERS

## (57)Abstract:

PURPOSE: To provide a packaging device and packaging bag by which the opening of the bag can be done easily and assuredly, and the packaging can be completed by one worker, for a work to simply package a vegetable, etc., by inserting the vegetable, etc., in a thin film bag made of a synthetic resin.

CONSTITUTION: A plurality of packaging bags 3 are fastened at the fastening part of a packaging section 1 which has a tilted surface, and set. A distribution plate 9 which divides the air stream from a blow out port 8 of a blower 7 being provided at the upper end of the packaging section 1 into a forward stream (a) and backward stream (b) is rotatably attached around a shaft, and a part above a cut off line 4 of the packaging bag 3 is held by a protruding part at the tip of the plate 9. The straightening plate 9 has a separation part 11 and duct part, and the tip is located close to an opening edge 5 of the packaging bag 3. The opening of the packaging bag 3 is triggered by the backward stream (b) from the blower, and at the same time, the packaging bag 3 is widely opened by the forward stream (a), and after a vegetable, etc., is inserted, the bag is cut off by the cut off line 4 to complete the packaging. By this method, even when a remaining edge part becomes large after the thin film made of a synthetic resin is cut off for the usage orderly, the packaging bag is assuredly opened by the air stream, and the packaging work can be done by one worker.



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CLAIMS

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## [Claim(s)]

[Claim 1] The package section which has an inclined plane, and the supporting plate which demounted to the lower limit of this package section, and was formed free. The bag for a package which prepared the engagement hole which engages with the stop section and this stop section of the bag for a package prepared in the handle part of the upper limit of said package section more nearly up than a cutoff line. It consists of the blower prepared above said package section, and the straightening vane which approached the outlet of this blower and was supported to revolve rotatable. The splitting section which this straightening vane is arranged ranging over the stop section of said bag for a package so that the upper part section may be pressed from the cutoff line of the bag for a package by the height at a tip, and divides an air current a front style and in the style of back by the outlet of a blower. Package equipment of the vegetable characterized by having the duct section to which it was made for a back style to spray a downward opening edge from the cutoff line of said bag for a package, and others.

[Claim 2] The bag for a package characterized by having consisted of the surface section which has an opening edge in a lower part location, and forming a cutoff line in a flesh-side surface part between said stop holes and opening edges the flesh-side surface part of which has two or more stop holes in upper limit, and hanging was made possible, and a little.

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## DETAILED DESCRIPTION

## [Detailed Description of the Invention]

[0001]

[Industrial Application] This invention relates to the package equipment of the simple bag for a package in the condition of having opened upper limit, such as a vegetable, other flowers and vegetation, such as Chinese cabbage and a burdock, and a solid material, wide.

[0002]

[Description of the Prior Art] When packing vegetables etc. simply conventionally and delivering by hand, even if it called it the simple package, one person had a bag, swelled and means, like other men put in and hand vegetables etc. were needed. Moreover, \*\*\*\*\* and the device for a simple package which turned and arranged the outlet of a blower in the opening edge in a bag so that it might be made to hang and opening might be carried out according to an air current one by one exist the upper limit handle part of the bag made of synthetic resin in the upper limit of a device.

[0003]

[Problem(s) to be Solved by the Invention] By the package which requires several men as mentioned above, an activity did not progress, but the tooth space was needed and the difficulty that a labor cost increases further was seen. Moreover, since these handle parts remained by 3-4mm in thickness while the bag for a package packed per 100 sheets by the device for the conventional simple package was used for the sequential package, left the handle part of upper limit and was cut off, the air current from the outlet of a blower could not spray the opening edge of the remaining bags more than these handle parts, but there was a trouble that automatic opening was impossible.

[0004] It can be easily packed by one person's actuation, and tends to offer the package equipment and the bag for a package which can be freely used besides vegetables while the purpose of this invention cancels the above conventional troubles, rectifies the air current from a blower and can carry out opening certainly.

[0005]

[Means for Solving the Problem] The supporting plate which demounted the 1st invention to the lower limit of the package section which has an inclined plane, and this package section, and was formed free in order to attain the above-mentioned purpose. The bag for a package which prepared the engagement hole which engages with the stop section and this stop section of the bag for a package prepared in the handle part of the upper limit of said package section more nearly up than a cutoff line. It consists of the blower prepared above said package section, and the straightening vane which approached the outlet of this blower and was supported to revolve rotatable. The splitting section which this straightening vane is arranged ranging over the stop section of said bag for a package so that the upper part section may be pressed from the cutoff line of the bag for a package by the height at a tip, and divides an air current a front style and in the style of back by the outlet of a blower. The back style considered as the package equipment of the vegetable and others which have the duct section it was made to spray a downward opening edge from the cutoff line of said bag for a package.

[0006] The flesh-side surface part of which has two or more stop holes in upper limit, and hanging was made possible, and a little, the 2nd invention consisted of the surface section which has an opening edge in a lower part location, and was taken as the bag for a package which formed the cutoff line in the flesh-side surface part between said stop holes and opening edges.

[0007]

[Function] In the 1st invention, since it considered as the package section which has an inclined plane, where the bag for a package is hung along an inclined plane, since the apical-process section of a straightening vane is pressing the upper part from the cutoff line of the bag for a package with gravity focusing on a supporting to revolve to revolve point, it is in the condition that this part draws. Therefore, when an opening edge is exactly sprayed as a strong air current, the back style from the duct section serves as a key of opening and this part carries out opening, the front style shunted with the straightening vane will flow into this part, and opening will be greatly carried out. Therefore, also when sequential use of the bag for a package stopped per 100 sheets is carried out and a handle part remains, it becomes the form held down by the straightening vane and the back style from the duct section came to be equivalent to the opening edge in a bag without the obstacle. The supporting plate of a lower limit supports the lower part of the bag for a package after a package. It is separated from the cutoff line of the upper limit of the bag for a package by pulling, after inserting vegetables etc. The supporting plate of a lower limit is demounted, and since it is free, if a supporting plate is attached upward, it can use as an object for Chinese cabbage, and if it is made hard flow, it can use for a package of a long object like [ for burdocks ].

[0008]

[Example] Hereafter, this invention is explained according to the drawing shown as an example. The package section in which 1 has an inclined plane, and 2 are supporting plates, are demounted in the lower limit of the package section 1, and are attached free. In addition, the supporting plate 2 shown by the dotted line of drawing 1 is the case where anchoring is changed. 3 is a bag for a package and 4 has a handle part for connection in the upper part by the cutoff line. 5 was prepared in the opening edge with the engagement hole, and 6 was prepared in the handle part (refer to drawing 7). 7 is a blower, was prepared above the package section 1 and has turned the outlet 8 caudad. It was supported to revolve free [ rotation ] with the shaft 10, 9 is a straightening vane, it was crooked so that a tip might become the inclined plane of said package section 1, and parallel, and it has hung on the package section 1. This straightening vane 9 consisted of the splitting section 11 and the duct section 12, and the splitting section 11 became thin with the stage toward double width equivalent to the package section 1 to the tip, and has formed the height 13 in the both sides at the tip crooked to the package section 1 side.

[0009] The duct section 12 constitutes the passage which results at the tip of said splitting section 11 by the almost same width of face as an outlet from the location connected with the outlet 8 of a blower 7. 14 is the stop section of the bag for a package, it makes a center a crevice, considers as the configuration where both ends were raised, is prepared in the upper limit of the package section 1, and is implanting two or more pins 15. This pin 15 agrees with the engagement hole 6 of the bag 3 for a package, and can hang the bag 3 for a package now in the package section 1.

[0010] Since the tip of a straightening vane 9 has resulted in the package section 1 as it straddled the stop section 14 of said bag for a package, it is acting so that the bag 3 for a package which engaged with said stop section 14 may be pushed against a crevice. The height 13 at the tip of said splitting section 11 can be made into the shape of a triangle, and a crowning can be freely rotated centering on a shaft 10 so that the handle part to the engagement hole 6 may be pressed down in the upper part of the cutoff line 4 of the bag 3 for a package. Therefore, if it rotates upwards centering on a shaft 10, the stop section 14 will appear, it can engage with a pin 15 and the stop hole 6 of the bag 3 for a package can be attached. After attachment will be in the condition of having pressed the handle part of the bag 3 for a package by the weight of a straightening vane 9 with gravity, if it returns centering on a shaft 10.

[0011] If a blower 7 is made to drive, from an outlet 8, an air current will be divided in the splitting section 11 the front style a and in the style of [ b ] back, and the back style b will come to open a direct spraying eclipse and the opening edge 5 to the core of the opening edge 5 of the bag 3 for a package through the duct section 12. Since the front style a by this time style section 11 comes to go into the opening edge 5, opening of the bag is carried out greatly, insertion of vegetables 16 of it is attained, and a package completes it.

[0012]

[Effect of the Invention] In the 1st invention of this invention, by carrying out splitting of the air current from a blower, the opening edge, of the bag for a package carries out opening, and, subsequently came to carry out opening greatly by the front style with the back style sprayed toward a core from the location close to the opening edge of the bag for a package. Since he is trying for a straightening vane to push by gravity also when sequential use is carried out when being especially stopped in 100 sheets or the unit beyond it with the bag of a thin film like synthetic-resin bag manufacture, and a handle part remains, it cannot become the obstacle of an air current but opening can be carried out certainly. After opening, when a vegetable and others are inserted, it can catch with a supporting plate, and by pulling down a bag, a bag is separated from the cutoff line of upper limit, and a package is completed.

[0013] The 2nd invention is a bag for a package used for this invention equipment, and has an engagement hole in the upper limit of a flesh-side surface part. Can engage with the stop section of said equipment, can hang, and an air current tends to enter from the opening edge of the surface section. Opening is easy and the effectiveness -- even if it is the thin film of that isolation is easier than a cutoff line and the product made of synthetic resin after inserting vegetables etc., can do a package certainly, and moreover, a package is possible in one person's actuation -- is large.

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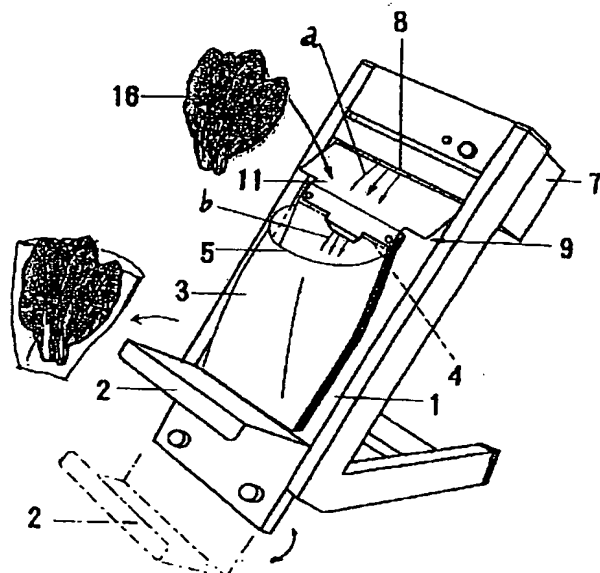
(54)【発明の名称】 野菜その他の包装装置及び包装用袋

(57)【要約】

【目的】 合成樹脂製の薄膜状袋に野菜等を挿入して簡易包装する作業で、袋の開口を容易確実にして一人で包装が完了できる包装装置と包装用袋を提供。

【構成】 複数の包装用袋3を傾斜面を有する包装部1の係止部14に係止してセットする。包装部1の上端に設けたブロー7の吹出口8からの気流を前方流aと後方流bとに分ける整流板9が軸10を中心に回動自在に取付けられ、先端の突起部13で前記包装用袋3の切取線4の上方を押えるようにした。前記整流板9は分流部11とダクト部12とを有し、先端が前記包装用袋3の開口縁5の近くに位置し、ブロー7からの後方流bにより開口のきっかけを作ると同時に前方流aにより大きく開口させ、野菜等を挿入した後、切取線4より袋を切離し包装が完了される。

【効果】 合成樹脂製の薄膜で順次使用されて切取られて残った耳部が多くなった場合にも気流により確実に開口し、包装作業が一人でできるようになった。



**【特許請求の範囲】**

【請求項1】 傾斜面を有する包装部と、この包装部の下端に取外し自在に設けた受板と、前記包装部の上端の耳部に設けた包装用袋の係止部と、この係止部に係合される係合孔を切取線より上方に設けた包装用袋と、前記包装部の上方に設けたブローアと、このブローアの吹出口に接近して回動可能に軸支された整流板とから成り、この整流板は前記包装用袋の係止部を跨ぎ、先端の突起部で包装用袋の切取線より上方部を押圧するよう配設され、ブローアの吹出口で気流を前方流と後方流とに分ける分流部と、後方流が前記包装用袋の切取線より下方の開口縁に吹付けるようにしたダクト部とを有することを特徴とする野菜その他の包装装置。

【請求項2】 上端に複数の係止孔を有して吊下げ可能とした裏面部と、若干下方位置に開口縁を有する表面部とから成り、前記係止孔と開口縁との間で裏面部に切取線を設けたことを特徴とする包装用袋。

**【発明の詳細な説明】****【0001】**

【産業上の利用分野】 本発明は白菜やゴボウ等の野菜その他花や植物、固型物等上端を開放した状態の簡易な包装用袋の包装装置に関する。

**【0002】**

【従来の技術】 従来より野菜等簡易に包装して手渡しする際に簡易包装といっても、一人が袋をもち、ふくらませて他の人が野菜等を入れて渡す等の手段を必要とした。又、合成樹脂製の袋の上端耳部を、機器の上端に引懸けて、垂下させ、順次気流によって開口させるようブローアの吹出口を袋の開口縁に向けて配設した簡易包装用の機器は存在する。

**【0003】**

【発明が解決しようとする課題】 上記のように数人の人を要する包装作業では、作業がはかどらず、スペースを必要とし、さらに人件費が高むという難点が見られた。又、従来の簡易包装用の機器では100枚単位でまとめた包装用袋が順次包装に使用されて、上端の耳部を残して切取られてゆく内に、これら耳部が厚さ3～4mmで残存するので、ブローアの吹出口からの気流がこれら耳部を越えて、残りの袋の開口縁に吹付けることができず、自動的な開口が不可能であるという問題点があった。

【0004】 本発明の目的は上記のような従来の問題点を解消して、ブローアからの気流を整流して確実に開口できると共に一人の操作で簡単に包装でき、野菜以外にも自由に使用することのできる包装装置及び包装用袋を提供しようとするものである。

**【0005】**

【課題を解決するための手段】 上記の目的を達成するため第1発明は、傾斜面を有する包装部と、この包装部の下端に取外し自在に設けた受板と、前記包装部の上端の耳部に設けた包装用袋の係止部と、この係止部に係合さ

れる係合孔を切取線より上方に設けた包装用袋と、前記包装部の上方に設けたブローアと、このブローアの吹出口に接近して回動可能に軸支された整流板とから成り、この整流板は前記包装用袋の係止部を跨ぎ、先端の突起部で包装用袋の切取線より上方部を押圧するよう配設され、ブローアの吹出口で気流を前方流と後方流とに分ける分流部と、後方流が前記包装用袋の切取線より下方の開口縁に吹付けるようにしたダクト部とを有する野菜その他の包装装置とした。

【0006】 第2発明は、上端に複数の係止孔を有して吊下げ可能とした裏面部と、若干下方位置に開口縁を有する表面部とから成り、前記係止孔と開口縁との間で裏面部に切取線を設けた包装用袋とした。

**【0007】**

【作用】 第1発明では、傾斜面を有する包装部としたので、包装用袋は傾斜面に沿って吊下げられた状態で、整流板の先端突起部が軸支点を中心に重力によって包装用袋の切取線より上方を押圧しているため、この部分が引込む状態となっている。従って、ダクト部からの後方流が強い気流として丁度開口縁に吹付けられ、開口の手がかりとなり、この部分が開口すると整流板で分流された前方流がこの部分に流入して大きく開口されることになる。従って、100枚単位で係止された包装用袋が順次使用されて耳部が残存する場合にも、整流板に押し込まれた形体となり、ダクト部からの後方流が障碍なく袋の開口縁に当るようになった。下端の受板は包装後の包装用袋の下部を支えるようになっている。野菜等を挿入後は引張ることにより包装用袋の上端の切取線から切離される。下端の受板は取外し自在であるので、受板を上向きに取付ければ白菜用として利用でき、又、逆方向にすればゴボウ用のように長い物の包装に利用できる。

**【0008】**

【実施例】 以下、実施例として示した図面に従って本発明を説明する。1は傾斜面を有する包装部、2は受板で、包装部1の下端で取外し自在に取付けられている。尚、図1の点線で示した受板2は取付けを変更した場合である。3は包装用袋で、4は切取線で上方に引掛用の耳部を有する。5は開口縁、6は係合孔で耳部に設けた（図7参照）。7はブローアで、包装部1の上方に設けられ、吹出口8を下方に向けている。9は整流板で、軸10により回動自在に軸支され、先端が前記包装部1の傾斜面と平行になるよう屈曲して包装部1上に垂下している。この整流板9は分流部11とダクト部12とから成り、分流部11は包装部1と同等の広幅から先端に向かって段付で細くなり、包装部1側へ屈曲した先端の両側に突起部13を設けている。

【0009】 ダクト部12はブローア7の吹出口8と連結した位置から吹出口とほぼ同じ幅で前記分流部11の先端に至る流路を構成している。14は包装用袋の係止部で、中央を凹部とし、両端を持ち上げた形状とし、包装部1

の上端に設けられ、複数のピン15を植設している。このピン15は包装用袋3の係合孔6と合致し、包装用袋3を包装部1に垂下できるようになっている。

【0010】整流板9の先端は前記包装用袋の係止部14を跨ぐようにして、包装部1に至っている。前記係止部14に係合された包装用袋3を凹部へ押し付けるように作用している。前記分流部11の先端の突起部13は三角形形状とし、頂部を包装用袋3の切取線4の上方で係合孔6までの耳部を押えるように軸10を中心に回転自在となっている。従って、軸10を中心に上方へ回転すれば係止部14が現われ、包装用袋3の係合孔6をピン15に係合して取付けることができる。取付後は軸10を中心に戻せば重力により整流板9の重みで包装用袋3の耳部を押圧した状態となる。

【0011】ブロワー7を駆動させると、吹出口8より気流は前方流aと後方流bとに分流部11で分けられ、後方流bはダクト部12を通り包装用袋3の開口縁5の中心部に直接吹付けられ、開口縁5を開くようになる。この時分流部11による前方流aが開口縁5に入るようになるので、袋は大きく開口し、野菜16を挿入可能となり、包装が完了する。

【0012】

【発明の効果】本発明の第1発明では、ブロワーからの気流を分流することにより、包装用袋の開口縁に近接した位置から中心部に向かって吹付けられる後方流により、包装用袋の開口縁が開口し、次いで前方流により大きく開口するようになった。特に、合成樹脂製袋のように薄膜の袋で100枚又はそれ以上の単位で係止される場合、順次使用されて耳部が残っていた場合にも、整流板が重力で押し付けるようにしているので、気流の障壁とならず確実に開口させることができる。開口後、野菜その他を挿入した時、受板で受止めることができ、袋を引下げることにより上端の切取線から袋が切離されて包装が完了する。

【0013】第2発明は、本発明装置に使用される包装用袋であり、裏面部の上端に係合孔を有し、前記装置の係止部に係合して垂下することができ、表面部の開口縁より気流が入り易く、開口が容易であり、野菜等を挿入した後は切取線より切離しが容易で合成樹脂製の薄膜であっても確実に包装作業ができ、しかも一人の操作で包装ができる等その効果は大きい。

【図面の簡単な説明】

【図1】本発明装置の全体を示す斜視図

【図2】同側面図

【図3】同正面図

【図4】ブロワーの気流を示す拡大説明図

【図5】整流板を回転させた状態の要部正面図

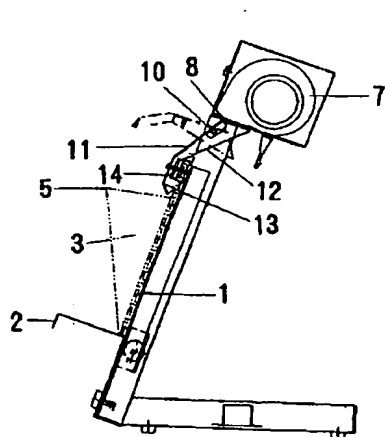
【図6】係止部の上面図

【図7】包装用袋の正面図

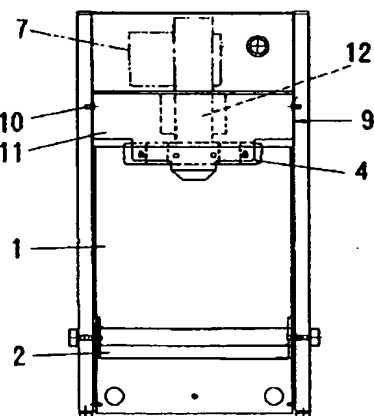
【符号の説明】

- 1 包装部
- 2 受板
- 3 包装用袋
- 4 切取線
- 5 開口縁
- 6 係合孔
- 7 ブロワー
- 8 吹出口
- 9 整流板
- 10 軸
- 11 分流部
- 12 ダクト部
- 13 突起部
- 14 係止部
- 16 野菜
- a 前方流
- b 後方流

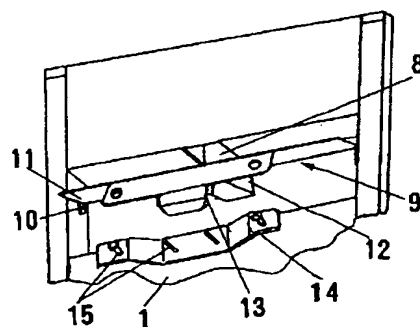
【図2】



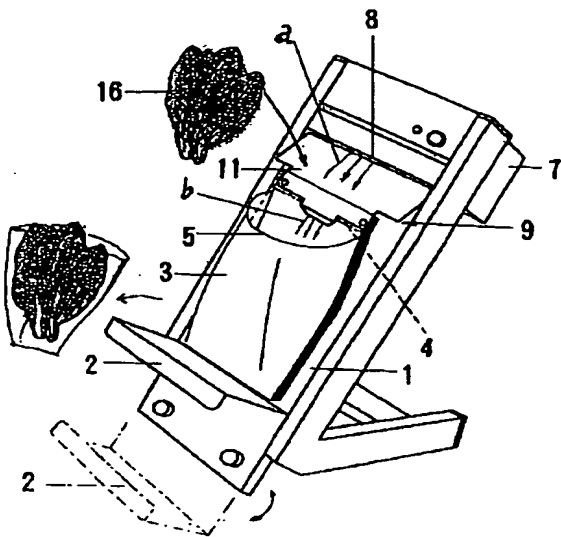
【図3】



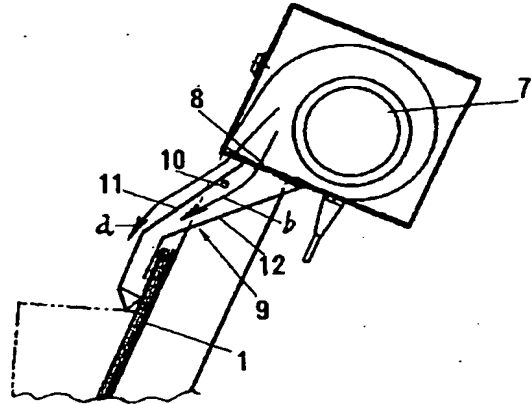
【図5】



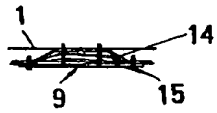
【図1】



【図4】



【図6】



【図7】

